

the original

LINEGRIP[®]



Aluminum webbing clamp for
tensioning 25mm slacklines



highlineGrip G2 MK-II

Manual ver. 7.6

Operating Manual & Safety Instructions



THIS DEVICE IS FOR EXPERT USE ONLY

Study this guide carefully & completely before using this product
Particularly observe the safety advice and warnings given herein



All topics in this manual and more are treated in detail on www.linegrip.com - Please visit
regularly to check for new information and potential lineGrip related safety issues!



DESIGNATED USE: The lineGrip may only be used for **tensioning slacklines** (flat webbing).



- It may not be used for anchoring/fixation of slacklines!
- It may not be used for suspension/transport of persons!
- It may not be used for tie-downs & lashing.
- It may not be used for lifting purposes.
- It may not be used with ropes or wires.

Always use an appropriate device for anchoring the slackline, such as a lineLock™, Slackbanana™, AWL™, or similar, and ensure that the backup gear is 100% reliable and fully functional at any given time, **particularly** while you are tensioning!



WARNING: Keep in mind, that a failure of the lineGrip in the tensioning phase might shock load your anchor system, which must therefore be able to handle undamaged a peak shock load 3x the load of your current and target tension!



IMPORTANT: Please always heed the safety instructions and warnings described within this manual!
Temperature and environmental factors may impair the functionality of the lineGrip.
In particular high temperature over 30° C (86° F) can cause the lineGrip to slip on the webbing!

Technical Specifications

Maximum Working Load (MWL):	8 kN	(1800 lbf)
Common Slipping Threshold (CST):	~ 20 kN	(~ 4500 lbf)
Minimum Breaking Strength (MBS):	25 kN	(5600 lbf)
Permitted operating temperature:	-10° to +40° C	(15° to 105° F)
Approved webbing width:	24 - 26 mm	(0.95 - 1.05")
Approved webbing thickness:	1 - 5 mm	(0.04 - 0.2")
Weight (excl. Shell):	385 g	(13.6 oz)
Measure L x H x W (swung open):	162 x 80 x 45 mm	
Material body & clamping plates:	Aluminum AW7075-T651	
Material load transfer bolts:	10 mm rod Aluminum AW7075-T651	
Material rubber plates:	LG Type-3 rubber on AL carrier plate	

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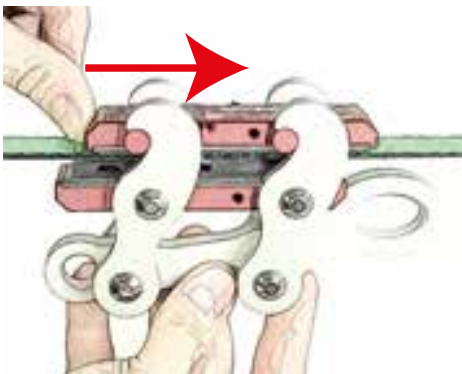
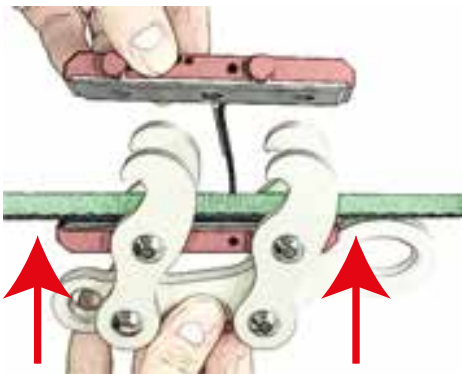
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24/7 lineGrip emergency hotline: +49 170 996 91 92

Attaching to the Webbing

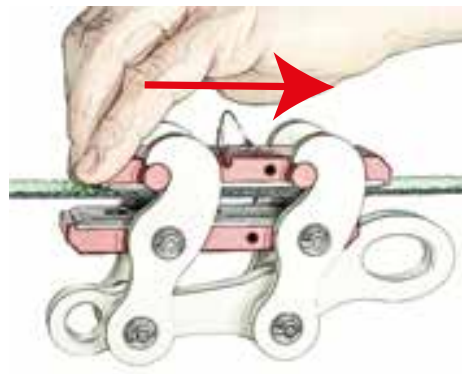
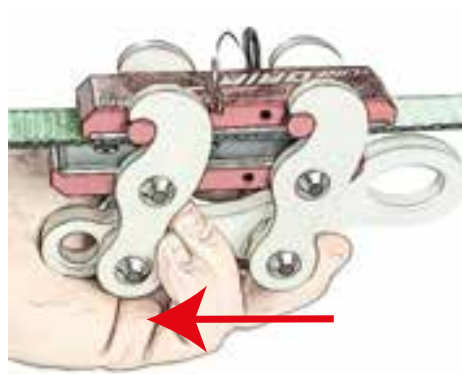
1. Attach the lineGrip to the webbing preferably from below, and insert the loose clamping plate.
2. Push the clamping plate forward, and latch the pegs into the hooks by moving the load bracket forward. Finally insert the retainer pin if present.



Caution: Keep the lanyard and retainer pin clear of the hooks and the clamping surfaces! Ensure correct orientation of the clamping plate with the **rubber surface facing the webbing!**

Moving on the Webbing

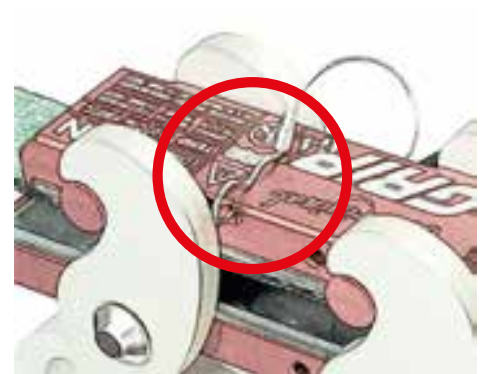
- Pull the lineGrip at the load bracket, **keeping hands clear of the hooks and clamping plate**, to move it **away** from the tensioning device (see top image). Push the lineGrip at the **clamping plate** to move it **towards** the tensioning device (see lower image).



Warning: If no retainer pin is installed, the lineGrip may fall off the webbing due to a shaking or oscillating slackline, when no load is applied to the load eye of the load bracket.

The Retainer Pin

- It keeps the loose clamping plate locked in place to ensure that the lineGrip will never fall off the slackline in any case. Insert the pin into the **pin hole nearest to the lever** to secure the clamping plate. Push out the pin before removing the loose plate.



Note: When using the lineGrip **UPSIDE DOWN**, always insert the retainer pin! In this orientation, and without installed pin, it can easily fall off even a calm and steady slackline while unloaded.

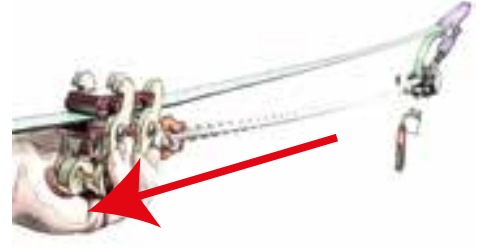
Tensioning Process / lineGrip Technique



1. Attach the slackline to the anchor points by means of appropriate anchor/fixation devices (web locks), and pretension by hand as well as you can easily handle (we've compiled some pretensioning tips and tricks on www.linegrip.com/pre ;-)



2. Attach the lineGrip preferably first to the webbing and then to the tensioning device to facilitate an untwisted connection (make sure that the ropes or chain is not twisted). **Important:** Ensure proper latching of the hooks!



3. Unlock the tensioning device, and move the lineGrip away from the anchor as far as possible, until the tensioning device is fully extended. **CAUTION! Keep hands clear of the hooks when releasing the load bracket! RISK OF INJURY!!!**



4. Now tension the slackline. While tensioning, remember to **frequently(!)** haul in the slack webbing between the lineGrip and the anchor! Failing to do so greatly increases the risk of damage or injury in case of slippage (see next page).



5. When the tensioning device is fully contracted, remove all slack between the lineGrip and the web lock (as tight as possible). Then **slowly** release the tensioning device so the load of the system is transferred gently onto the webbing locker.

If applicable, repeat steps 3-5 as often as required (until the desired tension is reached).

6. Finally, remove the lineGrip from the webbing and you're done :-)

Note: We recommend to backup your anchors!

IMPORTANT!
The lineGrip is for tensioning slacklines, not for anchoring! The lineGrip must always be removed from the webbing before walking the slackline!

REMEMBER!
While tensioning, always keep the lineGrip backed up with little slack!

WARNING: Never exceed the maximum working load designated on the lineGrips clamping plate label!

However, the maximum permissible load of the entire system is dependent on the breaking load of all the components used in the system!

BASIC RULE: 50% of the breaking load of the weakest component in the system = absolute maximum permissible load!

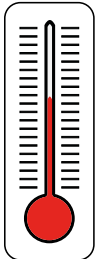
Take into account, that dynamic loads, such as jumping and leash falls, may result in peak loads of up to 200% of standing tension!

Pre Tensioning Safety Checks

Before loading the lineGrip, please double check that the rubber is facing the webbing and the pegs latch properly into the hooks!



Ensure parallel alignment with the slackline!



The MWL of your lineGrip is always primarily dependent on the temperature it is used at! Before beginning the tensioning process, please refer to the overleaf temperature diagram and determine the max. safe working load for your specific situation (EWL). If possible, try to avoid any red areas. As you approach these areas be very alert and cautious!



DANGER!!!

BACKUP with as little slack as possible!!!

Strictly avoid having more than 30cm of slack webbing between the lineGrip and the anchor! Please see: www.linegrip.com/warning

SAFE :-)



CAUTION! Keep hands clear of the hooks when handling a lineGrip that is attached to a tensioning device! **Risk of severe injury due to pinching!**



SLIPPING HAZARD WARNING
The lineGrip must always be backed up with an appropriate fixation device while loaded! Sudden slippage can never be excluded entirely, because the lineGrip establishes only a temporary friction based connection to the webbing!

TAKE SAFETY PRECAUTIONS!

Be aware, that high temperature will reduce the gripping power of the rubber! You as the operator are responsible to take any necessary safety precautions to avoid accidents in case of slippage (e.g. reliable backup, keep bystanders clear!)

Linking lineGrips / lineGrip-Cluster



Please note: Using multiple linked lineGrips, like shown above, **does NOT add the working loads** of the lineGrips used in the cluster! Please use this **guideline to calculate the Cluster Working Load:**

- Install the strongest device as primary lineGrip. **90% MWL of this unit is your Base Working Load.**
- with one secondary lineGrip add 5 kN to BWL.
- with two secondary lineGrips add 8 kN to BWL.

The **Cluster Working Load (CWL)** is thus calculated by taking the BWL (MWL-10%) of your primary unit (the strongest one) and adding 5 kN for one, or 8 kN for two additional units.

Example A: One G4 in front with two linked hIG will give you 13.5 kN + 8 kN = 21.5 kN CWL.

Ex. B: Two linked hIG = 7 kN + 5 kN = 12 kN CWL. Visit www.linegrip.com/cluster for more details.

Notes about the lineGrip Rubber

The rubber coating on the clamping plates is a key element of the lineGrip which must withstand highest strain. The rubber should be visually checked for integrity and be freed of debris and impurities before each use! **Any dirt or debris on the rubber surface can potentially damage the slackline**, even to a degree that may lead to premature failure at even less than 50% of the slacklines intact MBS!

The clamping plates are compressed with a pressure force of about 135% of the pulling force. So, if for example, the lineGrip is loaded with 1t pulling force, the rubber will exert pressure equivalent to about 1.35 tons to the clamped slackline, which will crush anything harder than the slackline through its fibers.

The rubber plate is a wear part (similar to the tire on a car), thus it must be replaced from time to time. Please note, that the rubber surface rarely wears off physically, due to lack of slip under normal conditions. Nevertheless, necessity for replacement may occur due to any of these reasons:

1. Rubber Aging

The lineGrip rubber consists partly of natural rubber, chemical components, and special plasticizers, which volatilize gradually. Due to this volatility, the rubber naturally loses its adhesive properties and softness in the course of time. Frequent usage in daylight (UV radiation), and high temperature, accelerate the rubbers' aging process. But even unused rubber plates, that are stored in a cool place and protected from light, have a limited shelf life of maximum 2 years.

It is therefore recommended to replace the rubber plates at least every 18 months! With prolonged and frequent exposure to direct solar radiation and heat, it is strongly recommended to replace the rubber plates every 12 months to ensure safe and reliable operation!

By means of visual and/or haptic inspection it is impossible to determine if a rubber plate is still fully functional due to age. The only way to assess the functionality and reliability of a visually intact rubber plate, is to determine its age through the batch number, that is stamped/etched into the carrier plate side. Compare the batch number on the plates of your lineGrip to a chart on our website, to check if and when they need replacement:

www.linegrip.com/rubber

Here you will find extensive information and details on this subject. Spare rubber plates may be purchased here: shop.linegrip.com

2. Rubber Wear

Under normal operating conditions the lineGrip rubber plates are not subjected to any significant wear, because the lineGrip usually does not slip on the webbing. If the lineGrip is primarily used with heavily worn slacklines, or with webbing made of other materials than polyester or nylon, the rubber tends to slip more frequently, which results in mechanical wear.

We suggest to replace the rubber plates when observing significant signs of wear. A heavily worn rubber coating poses an increased risk of slippage and should not be used further.



Danger! A heavily worn rubber plate (as seen above) must be replaced immediately!

Emergency Solution: If you are forced to use a lineGrip with heavily worn or over aged (>2 years) rubber plates, please do not exceed 50% of the lineGrips labeled working load and be particularly alert and careful while it is loaded!

3. Damaged Rubber

If the rubber coating is damaged (cuts, fractures), or peels from the carrier plate at any point, it may not be used further under any circumstances – **risk of sudden failure!** If in doubt, the rubber plate must be replaced or be checked by an expert!

Approved Webbing

Please visit www.linegrip.com/webbing to catch up on the latest webbing approvals and issues.

In general, every woven flat and tubular webbing made of plain, uncoated polyester or polyamid (nylon) is approved for unrestricted use.

All other types are not approved (yet), so special caution is to be observed when using:

- coated or impregnated webbing (e.g. Mantra MKII)
- webbing with rubber prints (e.g. Gibbon Flowline)
- webbing that consists partially (hybrid) or entirely of fibers other than polyester or polyamid.

Hightech materials tend to be a lot more slippery. Be very alert and careful when using these!

Tensioning of "threaded tubular" and "stacked" webbing with the lineGrip is possible to a limited extent only and is therefore excluded specifically.

Disassembly & Spare Parts

For improved safety, the lineGrip is assembled with special safety-locking-caps that can not unscrew. Therefore disassembly is not possible. A device with missing or damaged locking-caps may not be used until these are replaced (2 spare included)!

Spare locking-caps may be purchased at the lineGrip online shop: shop.linegrip.com

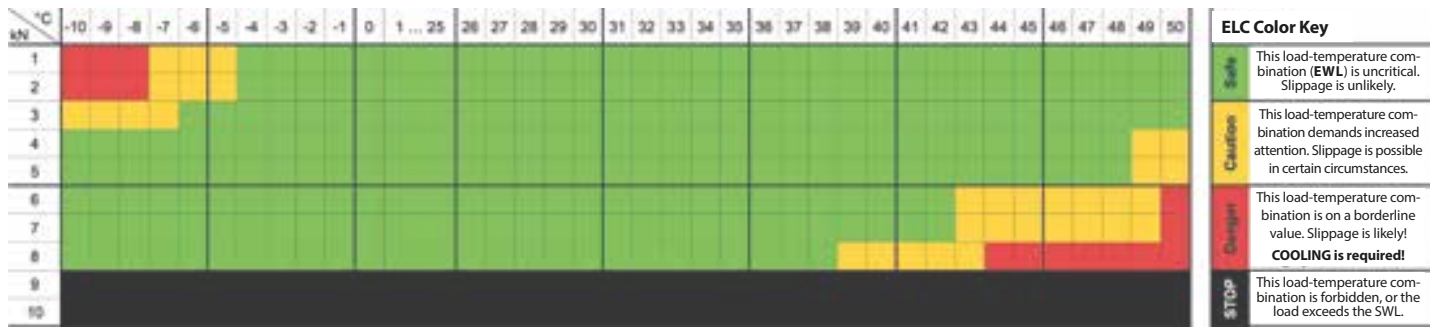
Cleaning & Storage

Rinse only with clear, warm water, and mild soap to clean. Dry completely before storing.

Storing the lineGrip in a cool and dark place will help prolong the life of the rubber plates.

Temperature-Load Diagram for the highlineGrip G2 with Type-3 Rubber Plates

The listed temperature is referring to the temperature of the rubber. In most situations, this corresponds to the surface temperature of the clamping plates, which again corresponds exactly to the ambient (air) temperature, when used only in the shade. The rubber temperature may easily reach 70° C (160° F), if the device is subjected to direct sunlight! The lineGrip must always be protected from direct solar radiation, even when not in use! More detailed information about how and why temperature affects the lineGrips performance is compiled here: www.linegrip.com/temp-load
 The following diagram helps you to assess your lineGrip's environmental load condition (ELC) and determine your current environmental working load (EWL).

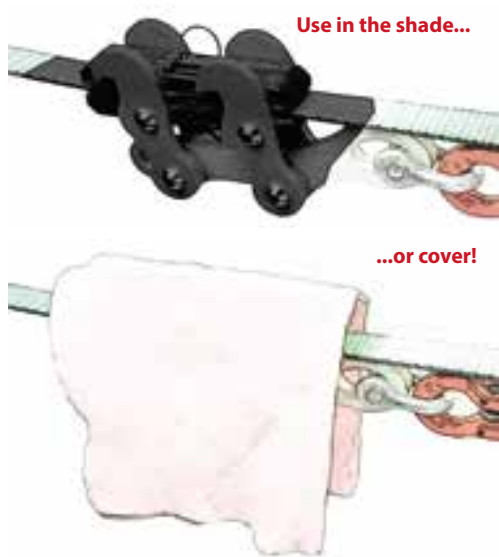


Note to a comparison with the G4 diagram: If you happen to compare this highlineGrip specific temperature-load diagram to the G4 diagram, you will notice, that they are both identical up to the 8 kN mark. The hIG diagram ends at the 9 kN mark without any extra yellow and red blocks, that buffer the low and high temperature areas around the maximum load limit, like they are present in the G4 diagram. The reason for this lies in the leverage construction of the hIG, which is identical to the G4. This leads to an absolutely identical performance of the two devices up to 8 kN load. Only due to its weight optimized design, the hIG is not quite as strong as the G4 and thus its working load limit ends here.

Please visit www.linegrip.com/warning regularly to stay informed about the latest knowledge concerning recent lineGrip related safety issues.

WARNING

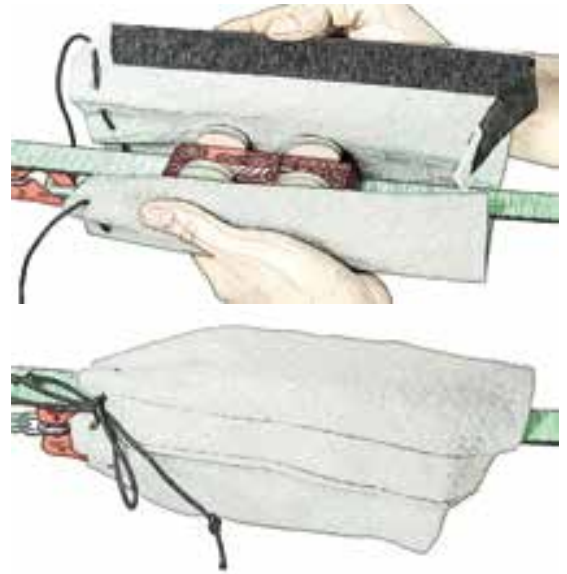
Direct sunlight can significantly raise the lineGrips' temperature (and thus the rubber temperature) within minutes, which may result in premature slipping on the webbing! Therefore the lineGrip should only be used in the shade when the ambient temperature exceeds 25° C (75° F).



Please note: If it is unavoidable to use the lineGrip in direct sunlight on hot days, then it must be covered with a lineGrip-Shell™ or a bright colored cloth/towel/t-shirt, to avoid unnecessary heating up!

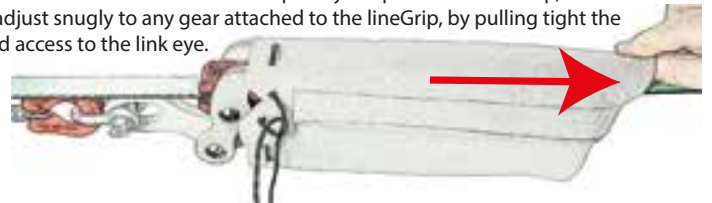
Water can also be used for cooling, if no bright colored cloth is available – simply pour the water over the plates of the installed lineGrip to cool the rubber. Positive effect: Pure and clean water also increases traction on uncoated and clean polyester, and polyamid webbing.

Whenever available you should use the lineGrip-Shell™ to protect the lineGrip from direct sunlight. Unlike a cloth, it will not move, nor fall off, if attached correctly. Simply unfold it, and wrap it around the installed lineGrip, as shown in the pictures to the right, and explained below.



When wet (moist), the lineGrip-Shell™ even provides **active cooling** through evaporative heat loss, which can lower the lineGrips' temperature inside the moist Shell up to 12°C (!) below ambient temp. The lineGrip-Shell™ serves as transport guard, sun light protection, and cooling facility. It is compatible with all tensioning devices and it also has "link capability", which means it can be used on lineGrips, even when linking them together to form a lineGrip-Cluster for handling ultra high loads (see overleaf). The Shell can be unfolded completely, and thus is suited well to subsequently wrap around a lineGrip, that is installed on the webbing and attached to a tensioning device. The front of the Shell will adjust snugly to any gear attached to the lineGrip, by pulling tight the cord. The rear end with the velcro strap accomodates an exit for the slackline and access to the link eye.

It is easy to move the lineGrip on the webbing, or quickly check up on your lineGrip during the tensioning process, by opening the cord of the Shell, and pulling it off the lineGrip while it remains attached to the webbing.



For additional information, tips, and tricks about this subject go to: www.linegrip.com/shell

Warranty, Service Guarantee, Liability

The manufacturer grants lifetime(!) warranty on this lineGrip. He will resolve all deficiencies to his discretion free of charge (shipping costs are excluded), either by repair, or replacement, provided that the deficiencies are based on workmanship and/or material defects. Excluded from this warranty are normal traces of use and wear, in particular, wear of the rubber plates, lanyard, and retainer pin (wear parts). Please consult the website for details: www.linegrip.com

Lifetime free service guarantee: Whenever your lineGrip does not perform as expected, you may mail it to the manufacturer to conduct any maintenance necessary for restoring your devices functionality to as near as possible factory state. If your device has been used as designated and not been tampered with, you will not be charged any labor costs whatsoever for this service feature, even if your lineGrip works perfectly and you just want to have it serviced and verified. The right to charge for return shipping costs and any replaced wear parts, or required spare parts needed for restoration, is reserved.

Disclaimer of Liability: Warranty is void immediately with improper use! Neither the manufacturer, nor the vendor, can be held liable for direct or indirect physical, property, consequential, or collateral damage resulting from the operation of this device. **By using the lineGrip you agree with these terms.**